LIFTING and MOVING PATIENTS

Overview

- Body Mechanics
- Principles of Moving Patients
- Equipment

Body Mechanics

- Lifting techniques
  - Safety precautions
    - Use legs, not back, to lift
    - Keep weight as close to body as possible

Lifting techniques Cont…

- Guidelines for lifting

  - Consider weight of patient and need for

    additional help

  - Lift without twisting

  - Have feet positioned properly

  - Communicate clearly and frequently

    with partner

Lifting techniques Cont…

- Safe lifting of cots and stretchers. When possible use a stair chair instead of a stretcher if medically appropriate

  - Know or find out the weight to be lifted
  - Use at least two people

Safe lifting Cont...

- Ensure enough help available. Use an even number of people to lift so that balance is maintained
- Know or find out the weight limitations of equipment being used
- Know what to do with patients who exceed weight limitations of equipment

Safe lifting Cont…

- Using power-lift or squat lift position
  - Keep back locked into normal curvature
  - Useful for weak knees or thighs
  - Feet, comfortable distance apart
  - Back tight, abdominal muscles lock back
    in a slight inward curve

Techniques Cont...

- Straddle object
- Keep feet flat

  - Distribute weight to balls of feet or just behind them
- Stand making sure the back is locked in and upper body comes up before hips

Techniques Cont...

- Use power grip to get maximum force from hands
  - Palm, fingers make complete contact with object with all fingers bending at same angles
  - Always use in lifting (allows maximum force to develop
  - Hands 10 inches apart

Techniques Cont…

- Lift while keeping back in locked-in position
- When lowering cot or stretcher, reverse steps
- Avoid bending at the waist

Carrying

- Precautions for carrying - whenever possible, transport patients on devices that can be rolled
- Guidelines for carrying
  - Know or find out the weight to be lifted
  - Know limitations of the crew’s ability
  - Work in a coordinated manner
  - Communicate with partners

Guidelines for Carrying Cont…

- Keep weight as close to the body as possible
- Keep back in a locked-in position and refrain from twisting
- Do not hyperextend

Carrying

- Correct carrying procedure

  - Use correct lifting techniques to lift the

    stretcher

  - Partners should have similar strength and

    height

Carrying

- One-handed carrying technique

  - Pick up and carry with the back in the locked position
  - Avoid leaning to either side to compensate for the imbalance

Carrying

- Correct carrying procedure on stairs
  - When possible, use a stair instead of a stretcher
  - Keep back in locked-in position
  - Flex at the hips, not the waist; bend at the knees
  - Keep weight and arms as close to the body as possible

Reaching

- Guidelines for reaching
  - Keep back in locked-in position
  - When reaching overhead, avoid hyperextended position
  - Avoid twisting the back while reaching

Reaching

- Application of reaching techniques

  - Avoid reaching more than 15-20 inches in front of the body

  - Avoid situations where prolonged (more than a minute) strenuous effort is needed in order to avoid injury

Reaching

- Correct reaching for log rolls
  - Keep back straight while leaning over patient
  - Lean from the hips
  - Use shoulder muscles to help with roll

Pushing and Pulling Guidelines

- Push , rather than pull, whenever possible
- Keep back locked-in
- Keep line of pull through center of body by

  bending knees
- Keep weight close to the body

Pushing and Pulling Guidelines

- Push from the area between the waist and shoulder
- If weight is below waist level, use kneeling position
- Avoid pushing or pulling from overhead position if possible
- Keep elbows bent with arms close to side

Principles of Moving Patients

General Considerations

- In general, a patient should be moved <u>immediately</u> (emergency move) only when:
  - There is an immediate danger to the patient if not moved
  - Fire or danger of fire
  - Explosives or other hazardous materials

Immediate Danger Cont…

- Inability to protect the patient from other

  hazards at the scene

- Inability to gain access to other patients

  in a vehicle who need life-saving care

General Considerations Cont..

- Life-saving care cannot be given because of the patient's location or position, e.g., a cardiac arrest patient sitting in a chair or lying on a bed

General Conditions Cont…

- A patient should be moved quickly (urgent move) when there is immediate threat to life
  - Altered mental status
  - Inadequate breathing
  - Shock (hypoperfusion)

General Considerations Cont..

- If there is no threat to life, the patient should be moved when ready for transportation (non-urgent move)

Emergency Moves

- Greatest danger aggravating the spine
- In emergency, direction of long axis of body
- Impossible, to move quickly and provide as

  much spinal protection that's needed as with an interim immobilization device

Emergency Moves Cont…

- If the patient is on the floor or ground,

  he can be moved by

  - Pulling on the patient's clothing in the neck and shoulder area
  - Putting the patient on a blanket and dragging the blanket
  - Putting the EMT-Basic's hands under the patient's armpits, grasping forearms , dragging patient

Urgent Moves

- Rapid extrication of patients sitting in vehicle
  - Establish cervical spine into neutral in-line position, providing immobilization
  - EMT applies cervical immobilization device, placing long spine board near door, move towards passenger seat

Urgent Moves Cont…

- Support thorax, as another EMT frees the

  patient's legs from the pedals

- Working together , with the EMT at the head in charge, rotate in several short coordinated moves until patients back is at the door and feet are on the passengers seat

Urgent moves Cont…

- Support the head (anyone can support the

  head)
- Place long backboard on seat next to patients buttocks, support head , while other EMT’s support and lower the patient onto it

Urgent Moves Cont…

- Slide patient onto the proper position on the board in short, coordinate move
- Several variations of the technique are possible, get assistance from bystanders. Don’t compromise the spine

Non-Urgent Moves

- Direct ground lift (no suspected spine injury)
  - Two or three rescuers line up on one side of the patient
  - Rescuers kneel on one knee (preferably the same for all rescuers)
  - The patient’s arms are placed on his chest if possible

Non-Urgent Moves

- The rescuer at the head places one arm under the patient's neck and shoulder and cradles the patient's head. He places his other arm under the patient's lower back
- The second rescuer places arm under patients knees and one above buttocks

Non-Urgent Moves

- If Another EMT is available, they should place their arms under the waist, and have the other EMT's slide their other arms down for more support
- On signal, lift patient to knees and roll towards chest

Non-Urgent Moves Cont..

- On signal, stand and lift patient to stretcher
- To lower patient simply reverse the steps

Non-Urgent Moves

- Extremity lift (no suspected extremity injuries)

  - One rescuer kneels at the patient’s head

    and one kneels at the patient’s side by

    his knees

Extremity Lift Cont…

- The rescuer at the head places one hand under each of the patient’s shoulders while the rescuer at the foot grasps the patient’s wrists

Extremity Lift Cont…

- The rescuer at the head slips his hands under the patient’s arms and grasped the patient’s wrist

- The rescuer at the patient’s foot slips his hands under the patient’s knees

Extremity Lift Cont…

- Both rescuers move up to a crouching position

- The rescuers stand up simultaneously and move with the patient to a stretcher

Non-Urgent Moves Cont..

- Transfer of supine patient from bed to stretcher

  - Direct Carry

  - Position cot perpendicular to bed with

    head end of cot at foot of bed

  - Prepare cot by unbuckling straps and

    removing other items

Direct Carry Cont…

- Both rescuers stand between bed and stretcher, facing patient
- First rescuer slides arm under patient’s neck and cups patient’s shoulder
- Second rescuer slides hand under hip and lifts slightly
- First rescuer slides other arm under patient’s back

Direct Carry Cont…

- Second rescuer places arms underneath hips and calves
- Rescuers slide patient to edge of bed
- Patient is lifted/curled toward the rescuers' chests
- Rescuers rotate and place patient gently onto cot

Non-Urgent Moves Cont…

- Draw sheet method

  - Loosen bottom sheet of bed

  - Position cot next to bed

  - Prepare cot: Adjust height, lower rails,

    unbuckle straps

Draw Sheet method Cont…

- Reach across cot grasp sheet firmly at

  patient’s head, chest, hips, and knees

- Slide patient gently onto cot

Equipment

Stretchers/Cot

- Types
  - Wheeled stretcher
  - Most commonly used device
  - Rolling
  - Restricted to smooth terrain
  - Foot end should be pulled
  - One person must guide the stretcher at head

Types Cont…

- Carrying
  - Two rescuers
  - Preferable in narrow spaces, requires more strength
  - Easily unbalanced
  - Rescuers should face each other from opposite ends of stretcher

Carrying Cont...

- Four persons
  - Ones rescuer at each corner
  - More stability and requires less strength
  - Safer over rough terrain

Loading into Ambulance

- Use sufficient lifting power
- Load hanging stretchers before wheeled stretchers
- Follow manufacturer’s direction
- Ensure all cot and patients secured before moving ambulance

Types Cont…

- Portable stretcher
- Stair chair
- Backboards
  - Long
  - Traditional wooden device
  - manufactured varieties
  - Short
  - Traditional wooden device
  - vest type device

Types Cont…

- Scoop or orthopedic stretcher
- Flexible stretcher

Maintenance

- Follow manufacturer's directions for inspection, cleaning, repair and upkeep

Patient Positioning

- An unresponsive patient without suspected spine injury should be moved into the recovery position by rolling the patient onto his side (preferably the left) without twisting the body

Patient Positioning Cont…

- A patient with chest pain or discomfort or difficulty breathing should sit in a position of comfort as long as hypotension is not present

- A patient with suspected spine injury should be immobilized on a long backboard

Patient Positioning Cont…

- A patient in shock (hypoperfusion) should have legs elevated 8-12 inches

- For the pregnant patient with hypotension, an early intervention is to position the patient on her left side

Patient Positioning Cont…

- A patient who is nauseated or vomiting should be transported in a position of comfort; however, the EMT-Basic should be positioned appropriately to manage the airway

Conclusion

- Summary

  - Body Mechanics

  - Principles of moving a patient

  - Equipment

Questions